

51. A method of treating an infertility condition as in claim 50 wherein a mucosal surface of the prospective mother is exposed to one or more antigens.

52. A method of treating an infertility condition as in claim 51 wherein the mucosal surface is selected from the group comprising an oral mucosal surface, a respiratory mucosal surface, a gastrointestinal mucosal surface or a genital mucosal surface.

53. A method of treating an infertility condition as in claim 51 wherein the mucosal surface is a genital mucosal surface.

54. A method of treating an infertility condition as in claim 51 wherein the one or more antigens and TGF $\beta$  or derivative or analog thereof is injected for systemic contact.

55. A method of treating an infertility condition as in claim 51 wherein the TGF $\beta$  or derivative or analog thereof and the one or more antigens are administered at one site.

56. A method of treating an infertility condition as in claim 51 wherein the TGF $\beta$  or derivative or analog thereof and the one or more antigens are each administered at a first site and a different site respectively.

57. A method of treating an infertility condition as in claim 50 wherein the TGF $\beta$  or derivative or analog thereof and the one or more antigen are administered temporarily spaced

apart.

58. A method of treating an infertility condition as in claim 57 wherein the one or more antigens are administered subsequent to an administration of the TGF $\beta$  or derivative or analog thereof.

59. A method of treating an infertility condition as in claim 57 wherein the one or more antigens are administered first followed by administration of TGF $\beta$  or derivative or analog thereof.

60. A method of treating an infertility condition as in claim 50 wherein the one or more antigens are chosen as a result of being particularly antigenic and prominent either on the sperm, or on the conceptus.

61. A method of treating an infertility condition as in claim 50 wherein the one or more antigens are present on cells taken from the prospective father that contain MHC antigens.

62. A method of treating an infertility condition as in claim 61 wherein the antigen is an MHC I antigen of the prospective father.

63. A method of treating an infertility condition as in claim 50 wherein the one or more antigens are administered on leukocytes of the prospective father.

64. A method of treating an infertility condition as in claim 50 wherein the one or more antigens are administered on sperm cells of the prospective father.

65. A method of treating an infertility condition as in claim 50 wherein the one or more antigens are administered on sperm cells of the prospective father.

66. A method of treating an infertility condition as in claim 50 wherein the one or more antigens are presented in purified or semi-purified form.

67. A method of treating an infertility condition as in claim 66 wherein the purified or semi-purified one or more antigens are presented on inert or adjuvant carriers.

68. A method of treating an infertility condition as in claim 51 wherein humans are being treated, and the exposure of TGF $\beta$  is to a mucosal surface and the level of TGF $\beta$  is greater than 50 ng/mL with a total dose of 150 ng/mL.

69. A method of treating an infertility condition as in claim 51 wherein the mucosal surface is exposed to a concentration of TGF $\beta$  of between 100 and 400 ng/mL with a total dose of between 100 to 2000 ng.

70. A method of treating an infertility condition as in claim 50 wherein the TGF $\beta$  or derivative or analog thereof is supplied in a slow release form.

71. A method of treating an infertility condition as in claim 50 wherein the exposure of the one or more antigens is to the prospective mother's genital tract in the form of the prospective father's ejaculate, and the level of exposure is determined by the cell count and antigenic density on the surface of such cells.

72. A method of treating an infertility condition as in claim 51 wherein humans are being treated and the one or more antigens are present on leukocytes, whereby between  $10^7$  and  $10^9$  leukocytes are administered to a mucosal surface.

73. A method of treating an infertility condition as in claim 50 wherein the  $TGF\beta$  is selected from the group of  $TGF\beta_1$ ,  $TGF\beta_2$  and  $TGF\beta_3$ .

74. A method of treating an infertility condition as in claim 50 wherein the  $TGF\beta$  is  $TGF\beta_1$ .

75. A method of treating an infertility condition as in claim 50 wherein the  $TGF\beta$  is modified.

76. A method of treating an infertility condition as in claim 75 wherein the modification is selected from the group comprising substitution, deletion or addition mutants, peptide fragments of  $TGF\beta$  or derivative or analog thereof, and peptide fragments of  $TGF\beta$  or derivative or analog thereof which have been incorporated into another protein.

77. A method of treating an infertility condition as in claim 50 wherein the TGF $\beta$  or derivative or analog thereof is a member of the TGF $\beta$  superfamily.

78. A method of treating an infertility condition as in claim 77 where the member of the TGF $\beta$  superfamily is activin.

79. A method of treating an infertility condition as in claim 50 wherein TGF $\beta$  is administered in its active form.

80. A method of treating an infertility condition as in claim 50 wherein TGF $\beta$  is administered in precursor form.

81. A method of treating an infertility condition as in claim 50 wherein the prospective mother is incapable of converting sufficient of the inactive form of TGF $\beta$  to active TGF $\beta$  , and the method of treating includes administration of active TGF $\beta$  .

82. A method of treating an infertility condition as in claim 50 wherein the prospective mother is incapable of converting the inactive form of TGF $\beta$  to active TGF $\beta$  , and the method of treating includes administration of a compound capable of activating TGF $\beta$ .

83. A method of treating an infertility condition as in claim 50 wherein the prospective mother is incapable of converting the inactive form of TGF $\beta$  to active TGF $\beta$ , and the method of

treating includes administration of plasmin, so as to increase the level of active TGF $\beta$  .

84. A method of treating an infertility condition as in claim 50 wherein TGF $\beta$  is administered in an unpurified form using a biological source rich in TGF $\beta$  .

85. A method of treating an infertility condition as in claim 84 wherein the TGF $\beta$  is administered in the form of platelets.

86. A method of treating an infertility condition as in claim 51 wherein humans are being treated and the exposure to TGF $\beta$  and male antigen is a multiple exposure.

87. A method of treating an infertility condition as in claim 86 wherein the multiple exposure is preferably performed over a period spanning at least three months prior to attempted conception.

88. A method of treating an infertility condition as in claim 50 wherein humans are being treated and exposure is at least one week before conception is attempted.

89. A method of treating an infertility condition as in claim 50 wherein the exposure is before attempted conception.

90. A method of treating an infertility condition as in claim 50 wherein administration of

TGF $\beta$  or derivative or analog thereof and the one or more antigen occurs at least once after the prospective date of conception.

91. A method of treating an infertility condition as in claim 90 wherein the exposure continues over a period of the first 12 weeks of pregnancy.

92. A method of treating an infertility condition as in claim 50 first including the step of diagnosing or testing whether the male has adequate levels of TGF $\beta$  or the female has the capacity to activate TGF $\beta$ , or alternatively whether anti-sperm antibodies exist.

93. A method of treating an infertility condition as in claim 50 used in conjunction with IVF treatment, whereby the transient hyporeactive immune response is elicited before transfer of the conceptus or gametes is attempted.

94. A method of diagnosing an infertility condition in males by testing the level of TGF $\beta$  in seminal fluid.

95. A method of diagnosing an infertility condition in a female by testing for the capacity of the female to convert the inactive form of TGF $\beta$  to the active form.

96. A composition for use in treating an infertility condition, comprising substantially purified TGF $\beta$  or derivative or analog thereof and one or more paternal antigens, and a